IN THE CLAIMS

Please amend the claims as follows:

1. (Original) An echo cancellation unit comprising:

an adaptive filter to generate a current echo model;

a convergence metric computation unit; and

a model store to store the current echo model from the adaptive filter as a saved model in response to an indication from the convergence metric computation unit.

2. (Original) The echo cancellation unit of claim 1 further comprising:

a distance measurement unit to measure a distance between the current echo model and the saved model; and

a threshold comparator responsive to the distance measurement unit to facilitate restoring the saved model as the current echo model.

3. (Original) The echo cancellation unit of claim 2 wherein the current echo model in the adaptive filter has a plurality of coefficients, and the model store stores a subset of the plurality of coefficients.

4. (Original) The echo cancellation unit of claim 2 wherein the distance measurement unit is coupled between the adaptive filter and the model store to facilitate a distance measurement between the current echo model and the saved model for a plurality of time lags.

5. (Original) The echo cancellation unit of claim 1 further comprising a reconvergence unit to restore the saved model as the current echo model.

6. (Original) The echo cancellation unit of claim 5 wherein the reconvergence unit comprises:

a distance measurement unit to compare the current echo model and the saved model over a plurality of time lags; and

a comparator coupled to the distance measurement unit, to restore the saved model as the current echo model at a matching time lag.

7. (Original) A speakerphone system comprising:

an output device to drive a speaker, the output device being responsive to a reference node coupled to a communications channel;

an input device responsive to a microphone; and

an echo cancellation unit coupled to the reference node and the input device, such that the echo cancellation unit utilizes data from the reference node to remove echo from a signal received at the microphone;

wherein the echo cancellation unit includes a model store to store a current echo model when a real-time error occurs.

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8. (Original) The speakerphone system of claim 7 wherein the speakerphone system is implemented in a computer, and the echo cancellation unit is implemented in software, the echo cancellation unit being coupled to the input device and reference node using memory in the computer.

9. (Original) The speakerphone system of claim 7 wherein the echo cancellation unit further includes a real-time error detector to detect when a real-time error has occurred, and to direct the model store to receive the current echo model, to create a saved model.

10. (Original) The speakerphone system of claim 9 wherein:

the echo cancellation system includes an adaptive filter having an input power and an output power; and

the real-time error detector is coupled to the adaptive filter to compare the input power and the output power of the adaptive filter.

11. (Original) The speakerphone system of claim 9 wherein the echo cancellation unit further includes a reconvergence unit to compare the current echo model with the saved model.

12. (Original) The speakerphone system of claim 11 wherein the reconvergence unit is coupled between the model store and the adaptive filter to compare the current echo model with the saved model for a plurality of time lags, and to conditionally replace the current echo model with the saved model at a matching time lag.

13. (Original) The speakerphone system of claim 9 wherein echo return loss enhancement is measured by the real time error detector, and a real-time error is detected when an inversion in echo return loss enhancement occurs abruptly.

14. (Canceled)

15. (Currently Amended) ~~The computer-implemented method of claim 14 further comprising:~~ A method comprising:

reconverging an adaptive filter using computer implementation, wherein the reconverging includes:

comparing a current model in the adaptive filter with a stored model, and replacing the current model with the stored model when a match is found within a distance measure;

determining a convergence metric value that describes a level of convergence of the adaptive filter; and

comparing the current model with the stored model when the convergence metric value is above a threshold.

16. (Currently Amended) The ~~computer-implemented~~ method of claim 15 wherein determining a convergence metric value comprises computing a ratio of adaptive filter output power to adaptive filter input power.

17. (Currently Amended) ~~The computer-implemented method of claim 14~~
A method comprising:

reconverging an adaptive filter using computer implementation, wherein the reconverging includes:

comparing a current model in the adaptive filter with a stored model, and replacing the current model with the stored model when a match is found within a distance measure, wherein comparing comprises:

normalizing the stored model;

normalizing the current echo model; and

measuring a Euclidean distance between the stored model and the current echo model.

18. (Currently Amended) A method ~~of recognizing the occurrence of a real-time error and reconverging an adaptive filter~~ comprising:

recognizing the occurrence of a real-time error; and

reconverging an adaptive filter, wherein recognizing and reconverging includes:

detecting the real-time error;

saving a current echo model in the adaptive filter as a saved model in a model store;

resetting the adaptive filter such that convergence begins anew;

comparing an emerging echo model in the adaptive filter to the saved model; and

replacing the emerging echo model with the saved model when a match is found.

19. (Original) The method of claim 18 wherein detecting the real-time error comprises:

comparing an adaptive filter output power to an adaptive filter input power; and

when the adaptive filter output power is greater than the adaptive filter input power, recognizing that a real-time error has occurred.

20. (Original) The method of claim 18 wherein detecting the real-time error comprises:

measuring echo return loss enhancement; and

when the echo return loss enhancement inverts, recognizing that a real-time error has occurred abruptly.

21. (Original) The method of claim 18 wherein saving a current echo model comprises searching the current echo model for a portion that includes a direct path and reverberations, and saving the portion as the saved model.

22. (Original) The method of claim 18 wherein comparing the emerging echo model with the saved model comprises:

for each of a plurality of time lags, computing a distance between the emerging echo model and the saved model to find a matching time lag.

23. (Original) The method of claim 22 wherein replacing comprises replacing the emerging echo model with the saved model shifted by the matching time lag.

24. (Original) An article having a machine readable medium with instructions for performing a method of reconverging an adaptive filter disposed thereon, the method comprising:

saving a current echo model from the adaptive filter as a saved model in a model store;

resetting the adaptive filter to start converging anew;

comparing an emerging echo model with the saved model; and

replacing the emerging echo model with the saved model when a match is found.

25. (Original) The article of claim 24 wherein comparing the current echo model with the saved model comprises:

performing a distance measure between the emerging echo model and the saved model at a plurality of time lags.

26. (Original) The article of claim 24 further comprising:

prior to saving a current echo model, determining if a real-time error has occurred by comparing an adaptive filter output power to an adaptive filter input power.